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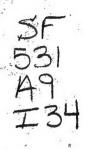
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'he Carniolan Gray-Banded Alpine Bee.

Exported by the

Imperial-Royal Agricultural Association

Ljubljana, Carniola (Krain), Austria

Contents.

- 1. Characteristics of the Carniolan Alpine Beer
- 2. How to Manage the Carniolan Alpine Bee.
- 3. Carniolan Original Hive.
- 4. Treatment of the Hive at the Arrival.
- 5. Treantment of Mobil Hives and Nuclei.
- 6. Translodging of Bees and Combs from Carniolan Original to Mobile Hives.
- 7. When Shall the Carniolan Alpine Bees be Ordered.
- 8. Estimation of the Carmolan Bee by an Authority.
- 9. Vitality of the Carniolan Alpine Bee.
- 10. Scenic views of the "Home of the Carniolan Alpine Bee.



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1. Characteristics of the Carniolan Alpine Bee.

The Carniolan Alpine bee is of the same external appearance as the German bee, with the exception, that in color she is of a much lighter shade than the later. Her color is whitisch gray. But her most advantageous charasteristics are her gentleness, her hardiness, her industry and immense prolificness.

The gentleness of the Carniolan Alpine bee is acknowledged by all who have handled her as bee-keepers. In Carniola the apiaries are often near roads and open places, frequented by adults and children, but it never occured that people or animals were attacked by bees. Children play around the apiaries without being endangered by them. Bee veils in Carniola are not used. It happened that a swarm of bees alighted on the bare arm of the bee-keeper — the later not being stung by a single bee. Some of the Carniolan bee-keepers brush the swarms with bare hands into the basket.

The gentleness of the Carniolan bee has won her among the apiarists of the world many friends, and not few of them became such only on account of this virtue of her.

Regarding the *industry* and diligence of the Carniolan bee, let us cite an excerpt from the book »Die Krainer Biene« (The Carniolan Bee), which A. Alfonsus, one of the foremost German experts in apiculture and writer, has published:

»That the Carniolan bee is especialy adapted for places with late honeyflow, is a long known fact. But the expert bee-keeper, living in localities, where only one early flow occurs, will certainly her unexcelled virtues even under such conditions appreciate and utelize.

For the great economical value of the Carniolan Alpine bee, the fact is significant, that the export of the same, without any great effort of advertising, has reached such large dimensions, when the Italian bee, the praise of which eminent apiculturists so loudly proclaimed, disappeared almos entirely, in so short a time, from the field of apiculture.

»Under all conditions is the Carniolan bee a valuable object for breeding purposes, and we are only glad, that she found such a wide expanse of her utility and common appreciation.«

For the better understanding it may be here remarked, that the author had in mind the European non — Italian Countries, when he speaks of the »disappearance of the Italian bee from the field of apiculture.«

The "Wiener Bienenvater" in its issue No 12, 1905, published an article, showing that the Carniolan bee at a governmental apicultural observing station, surpassed, regarding the gathered quantity of honey, her competitors, the German and Italian bees,

The ability and industry of the Carniolans on red clover, when other races kept away from the same, is indisputable. The »Muenchener Bienenzeitung«, a couple of years ago, brought an article relating to this fact, saying among other things: »The dry weather of the past season favored work in red clover, and the Carniolans appeared on it in full force, whille the Americanized — cloverstock did not visit it at all.» The »American Bee Journal«, has in its issue of December, 1910, page 384, a correspondence in which the writer says: So far as Can recall, all the advertisers of long tongued stock had Italians to offer. and as the best workers I have had on red clover have, as a rule, been Carniolans.«

The long or short tongues of different strains of bees may or may not have something to do with their relative ability of finding honey in diverse plants - but this is a certain thing: The gray Carniolan bee of the Alps, the legs and greater part of her body covered with a hoary filament, whose exterier shows sturdiness combined with agility - could have evolved these external characteristics only in the higher altitudes of her home mountains — the western spurs of the Julian Alps and Karawanks — where in the earliest spring (and even in February), exposed to biting winds and stinging frosts of the glaziers, she searches the highest peaks after the flowers and blossoms that the weak rays of the sun of this season, have called from the clefs and crevices of the steril mountain sides. The forbidding location, the rarity of the nectar-bearing blossoms, the long way of ascent and descent in the teeth of inclement elements, have steeled her body, sharpened her instinct of honeyfinding and developed the grim determination and undaunted perseverance to get the nectar even from plants, the blossoms of which refuse to yield the same to bee races, that were breed and reared under more comfortable physical environments.

"The Imperial-Royal Agricultural Assotiation of Carniola, only this hardy strain of the Carniolan bees will export to foreign lands, thus making an end to complaints, raised by some foreign importers relative bees received from Carniola, which showed yellow markings and other characteristics, not at all coming up to the high standart they were bought for. These bees may have been all right Carniolan bees, crossings with Italians and Cyprians as raised in some parts of Lower-Carniola — but they were not pure-blooded Carniolan Alpine bees which alone are of value for breeding improvements. The Alpine bee reared in Upper — Carniola, the gray workers, is the bee which is wanted by connoisseurs and best breeders of fine stock.

It may be here said that in other parts of Carniola than Upper Carniola, are raised pureblooded Carniolan bees. In Lower — and other

parts of this province are isolated elevated valleys, surroundet by high sterile mountains, where the pure blood of the Carniolan bee remained undefiled by foreign blood intermixtures. These bees in every respect fully equally the strain raised in Upper Carniola.

The immense prolificness of The Carniolan Alpine bee illustrates Mr. Gerstung, expert and writer on apiculture, in the following manner: »A small swarm of Carniolan Alpine bees, received on May 16. developed so rapidly that at the end of June ten frames (40" × 25" comb surface) were closely with comb and brood covered. The swarm gave a virgin swarm weighing 6 pounds net - from 35-40.000 bees. Adding to this number 10.000 bees that did not leave the hive with the swarm, and the ones being busy on the flow, taking further in consideration that only three weeks after the arrival of the bees, the first hatched reached the flying stage - then we come to the conclusion that in 20 days 50.000 bees were hatched from eggs the queen has laid. Nearly equal to this number we must count the eggs in the brood cells at the time when the swarming occured. All this gives us the fact that the queen in the time from May 16. until June 27. (day of swarming) at least has laid 100.000 worker eggs - averaging 2500 daily. As in the first three weeks, on account of the smallness of the colony, only half of this amount the production of eggs may have been, the maximum daily egg production must have been not less than 4000.«

Yea, the Carniolan Alpine bees are undoubtedly the most prolific breeders, the most severe winters they stand well and in the spring they breed rapidly up. Every child and woman can manipulate them without fear of being stung — such is their gentleness. They sting only in self-defense by being roughly handled. Further advantages they offer to the beekepeer are: they make very little propolis, are exceptionally good comb builders, and finish and cap the combs very white. The good qualities of the Carniolan bee, once known, will make this race of bees the most favorite among all others. Let us here mention that for queen rearing purposes, the Carniolan Alpine bee cannot be surpassed. At the time of swarming, 50 and more queen cells in the colonies can be found.

It is no exageration or wanton braggadocio if we here express the conviction, that the »Bee of the Future« in The U.S. and other young countries in the world, will be a new and superior strain of bees, and the main parts of her excellent qualities: industry, hardiness, prolificness and gentleness — she will have derived from the Carniolan Alpine bee.

What bee laid the foundation of the Caucasian gray bee and the excellent bee now reared in Swiss?

Were not the mothers of these offspring years ago, through many decennaries, imported from Carniola?

Most certainly they were.

2. How to Manage the Carniolan Alpine Bee.

The Carniolan bee is known as a swarming bee. This would imply that she is not diserable in localities, where only one early honev flow is the rule. The Carniolan bee is only as long a bee inclined to excessive swarming, as long she is kept in small hives. As soon she is transfered to hives that can be enlarged, giving the queen room to satisfy her breeding capacity, she loses her inclination for swarming without losing her prolifieness.

The »Leipziger Bienenzeitung«, issue No 11, 1909, says about the treatment of the Carniolan bee as follows:

»The German be is now known as one of the best honey producers. Of the Carniolan bee it is said that she is a swarming bee, that does not achieve any great results in respect of honey gathering. In my opinion this later statement is always based on a wrong handling of the Carniolan bee, not taking in consideration the characteristics of this race, and the local pecularities of the honey flow.

»The Carniolan Alpine bee is decidedly, even for localities without a late honeyflow, a great success — if managed properly. Certainly, if two weeks before the beginning of the main honey flow the combs with brood are not limited, if the brood contains too many drone cells, and if the entrance to the honey combs to the queen is not made impossible by using excluding wiring — then the production of honey is almost nought.

»Regarding the great swarming tendencies of the Carniolan bee, it must be said that this is not at all a disadvantage. Quite the contrary. Her early maturity is of great value. A strong Carniolan colony can at the end of May have two swarms without diminishing the quantity of honey of the mother — colony.«

»Always select the best queens and only colonies with the best honey production should be used for breeding purposes. At the time of the flow I take every week the full combs out and after extracting the honey, I return the same to the colony.

»In the spring the Carniolan bee develops very fast. A colony that after wintering occupies only three half frames (badensishe measure), should not be abandoned or given up, or made stronger by adding bees and brood from other colonies. If such a diminished and weakened colony in the spring is healthy, has a good queen, is sufficiently feed and kept warm it will at the time of the main flow (June) become so strong that its honey production will favorable bear comparison with any other colony.«

The best results as to the honey production with the Carniolan bee, can be achieved by keeping the same in large hives, and by limiting the breeding space 4-5 weeks before the beginning of the main flow.

Now something of importance in respect to the handling of the Carniolan original hives, which contain always stabil combs.

Regarding the same, Mr. A. Alfonsus, in his book »The Carniolan Bee«, says:

If some of the bee-keepers were not successful with their work with the Carniolan original hives, the reason of this failure is not hard to find. As a rule the beginner in beekeeping wants the stabil hives (box hives) as soon as possible from his apiary excluded. For this reason he transforms — with more force than right — the original hives immediately after their arrival in mobil hives (with frames). With this he harms the colonies in their development and well-being, instead of utilizing the immense prolificness of this race of bees for the purpose of getting natural swarms from the original hives.



A Giant Swarm.

»This is the only proper management of the Carniolan original hives. If done this way, the beginner will, by rationally utilizing the prolificness of the bees, soon be in the possession of good colonies in mobil hives by letting the bees swarm from the original hives, and transfering the swarms to mobil hives. Only then, when his apiary has reached the desired number of colonies, he can cancel the further use of the original hives.«

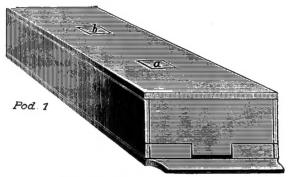
Once more may be said: the best use of the original hives can be made by using the same as swarming hives. If taken good care of them they can many years be of services for this purpose.

3. The Carniolan Original Hive.

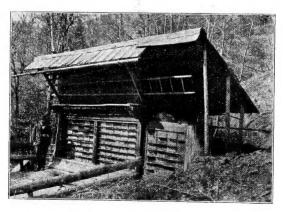
In Carniola the original peasant hive is, with few exceptions, in general use. The illustration shows the same as a low box, about 2 feet

4 inches long, one foot width and 7 inches high. The weight of the empty case is 3-4 Kilogramms (6-8 pounds).

The original hive contains always stabil combs, never frames or comb supporters. The upper board on which the combs are build is securely nailed on the side boards. The bottom board, used in front as alighting board — is fastened with four nails on the sideboards, and can be taken out whenever wantend. For this purpose the hive must be put upright — with the hind part down. The front board with the entrance and the board in the rear are kept by ledges in position and can be easily taken away. The combs are build in a slanting position towards the entrance.



Carniolan Original Hive.



Carniolan Peasant Apiary.

The Carniolan hive is, standing isolated, not sufficiently warm, therefore the same are in great numbers piled closely together. Only the uppermost row is covered with blankets, sacks etc. In the winter the hives

are protected by covering the rear part of the pile with moss, dry leaves etc. For export only such hives are selected, which were regarding their strength of stock, development of brood, sufficient quantity of honey, proper mating of queens, absolute health of bees and combs with the utmost care and circumspection examined and approved. To secure the safe arrival at the place of the buyer, the bottom board and the front and rear boards of the hive, are fastened with nails, and every precaution taken that the hive and its contents may reach its destination sound and unharmed.

4. Treatment of the Hive at the Arrival.

When the hives arrive they should be set up at their stands, the entrances opened, and the air openings (made for ventilating purposes on the way) which are covered with wirecloth, closed. Further, the hives should be on all sides covered with blankets, moss or dry leaves to keep the bees warm. The front or rear boards should not be opened before the bees have been 5-8 days in the new locality, and have shown by their flights that they are good acquainted with the new conditions. Otherwise many of the



Taking the supporters away.

bees would go astray and be lost. Should the weather be very bad they must be feed. This should be done only in the evening by shoving, through the front or rear part of the hive, a flat vessel with liquid food. The next morning the vessel should be taken out. After the bees have for some days flown regularly, returning laden with honey, one morning the original hives should be put on a table bottom upwards. The bottom board should be cautiosly taken away, and the nails that were for the transport nailed fast in the bottom board, the rear and front board, taken aut. After this the

laths or stripes of wood, that were inserted among the combs to make them more firm, should be takem out also. After all this is done the bottom board should be fastened with the four nails, and the front and rear board set in the ledges. The hive should then be returned to its stand, and in the manner as mentioned before, against cold protected.

5. Treatment of Mobil Hives and Nuclei.

When the mobil hives and nuclei arrive, they should for some hours be placed in a cool and dark place or cellar. This for the purpose of pacifying and resting the bees. In the evening, if possible in the open air, they should be brushed or shaken into the destined hives. If some of the bees fly away, they will return later to the colony. It is advisable to put in the new hives a comb with brood and some honey. The same can be done with the foundation. The queen is free among the bees, because it is better in every respect to leave her in the colony for the time of traveling.

It is not practical, bees shipped in mobil hives and nuclei on frames, to translodge immediately after the arrival. This would be accompanied by a great loss of bees. It is better to put up the shipping cases on the same stands where the new hives will be placed. They should be left for some days in this position, the bees flying from the entrances that were made in the shipping cases. The later should be warmly covered. Only after 5–8 days the transfering of the frames from the cases to the new hives should be done, and this on a warm day towards the evening.

The mailed queens should be introduced into the new colonies towards the evening after the day of their arrival, and according to the printed directions that are printed on the under side of the wooden cover of each mailing cage. The greatest possible precaution should be taken, when a queen should be introduced to a colony that for a longer time was queenless and without brood. Such colonies, as a rule, refuse to accept a queen.

6. Translodging of Bees and Combs from Carniolan Original to Mobile Hives.

As stated before, it would be unpractical and harmful if the Original hives were immediately after their arrival, cut out and the combs and bees translodged to mobil hives. If the keeping of the original hives for years is considered impossible, then the work of cutting and transfering the combs and bees to mobil hives should take place after the swarming season. After the queen has begun the laying of eggs, and the colony does not show any capped brood — then the proper time for cutting has arrived.

For this work two practical bee — keepers are necessary. Beginners will seldom accomplish the manipulation satisfactorily. The best time for cutting is in the evening. A table of some size is needed first, near it, ready for use, put the new hive into which the combs and bees of the original hive should be translodged. Besides this keep in readiness a sharp knife for cutting the combs, a bee brush, strong cotton thread and a number of empty frames.

After arranging all this, lay the original hive, bottom up, on the table, take away the bottom board, and the front and rear boards, then cut the first comb from the hive and brush the bees, hanging from the same, in the new hive. The comb, now without bees, shall be made to fit in the frame, and fastened with the cotton thread on the same. Then hang the comb in the new hive. In this manner, all combs, one after another, shall be cut out, cleaned of bees, fitted in the frames, and the latter transfered to the new hive. Care should be takem that the combs are fastened in the frames with the right side up. Instead cotton thread, narrow wooden strips can be used. They can be nailed on both sides of the frame, and, after the bees have in a couple of days the combs build in, taken away.

When cutting, use cold water. The place where a comb was cut from, should be thoroughly moistened with water. This makes the work much easier, especially by hives with much honey. After the work is finished, put the new hive with the transfered bees just on the same place wherefrom the original hive was taken. It is good that the entrance of the new hive corresponds to the position in which the entrance of the original hive was situated. Such new translodged colonies shall be feed for some evenings with liquid honey.

Robbery at the time of cutting, can be avoided, if the manipulation is performed at the time of a honey flow. Besides this, it is the best time for the well-being of the transfered colony.

After some days the transfered colony should be closely examined, the bottom cleaned, the cotton threads etc. taken away, combs that came out of position righted, and in general, everything properly adjusted.

Such colonies demand, until their complete strength is achieved, careful observation, and should, if possible, be strengthened with young working bees.

7. When Shall the Carniolan Alpine Bees be Ordered?

The export of the Carniolan orginal hives begins, as a rule, at the end of the month March or the beginning of April. This depends from the weather. The shipping can be continued until the end of May and even June without any danger to the colonies — except by very hot weather.

The best time to order the original hives is January, February, March and April. Orders arriving later, will only be effected if favorable weather conditions make the shipping possible.

Towards the end of May no hives with very strong colonies can be shipped. On the long voyage the colonies would become overheated, to avoid this, leess strong colonies are shipped. These need a longer time until they attain the stage of swarming.

8. Estimation of the Carniolan Bee by an Authority.

Mr. E. F. Phillips, Ph. D., Expert Apiculturist, U. S. Department of Agriculture, Bureau of Entomology Washington, D. C., in his Bulletin No 55, The Rearing of Queen Bees, makes regarding the Carniolan bees the following statements:

Page 8. In Carniolan, Cyprian, and other races not so much selection has been carried on in this country, and in consequence the desirability of importations is greater in order to insure purity of stock«.

Page 15. *Italians do not as readily accept and complete large numbers of queen cells as do either Cyprians or Carniolians. In yards in which Italian queens are reared, it may therefore be desirable to keep colonies of Carniolans or Cyprians. It neet scarcely be said that in such cases drone traps should be used.

Page 29. There is one phase of queen breeding which would doubtless prove useful, but which has not yet been tried to any extend. The first crosses of varions races have proven very useful; as for example, the cross between Carniolans and Cyprians, but no breeder to the writers knowledge has ever undertaken to fix the type. That this could be done seems very probable, reasoning from what we know of crosses in other animals, and by eareful selection of prolific queens whose workers showed all the characteristics of the first cross, these crosses would doubtless prove valuable as breeders.

9. Vitality of the Carniolan Alpine Bee.

The article "The Vitality of Honey Bees" by an distinguished American writer on Apiculture, printed in the American Bee Journal, January 1911, page 18, shows-unconsciously and unintentionally-the possibilities and opportunities the vitality of the Carniolan bee has accorded to her in Apiculture.

The article begins with the question: »Do modern methods, especially the restricting of natural swarming and the rearing of queens by artificial means on a large scale, have a tendency to weaken the race?

In the course of his able article the author says:

»If, in order to secure a non — swarming race of bees, we were to commit the same fault — rearing the Italians for yellow color on account of which the »golden Italians were degenerated by sacrificing their vitality and prolificness — we would still more rapidly detoriate the race. Selecting as breeders of our young queens the colonies which did not swarm, without taking into consideration their activity, their prolificness, and their honey — producing qualities — which are, above all, most important — we would naturally secure our breeders from undesirable colonies. Certainly they would swarm less than the others, and this would be due to the self — evident fact that they were less active, less prolific. This would cause a prompt and easily explained decrease in the usefulness of the breed.

»The selection which, to my mind, will be the slowest to produce positive results, will be that of the most prolific and most productive colonies, manipulated in such a manner as not to induce swarming. When we succeed in avoiding natural swarming in some of our best colonies, by minute and constant attention, supplying them with ample room, plentiful shade, abundant ventilation etc., we may be able to improve the race by taking our breeders, queens and drones from these same colonies, but reared elsewhere. At the same time we must avoid permitting the lesser colonies to furnish any increase. Every time that we will manage one of the best colonies so as to prevent its swarming, and will allow one of the poorer ones to cast a swarm, we will make a step towards detorioration. The method to be followed in swarm — prevention is to make an artificial rearing of queens from our most desirable colonies, and use these queens to supply the swarms or artificial divisions from our mediocre colonies.

»However, some one perhaps will say that the production of a non — swarming race of bees is an utopia beyond our reach. Perhaps not altogether, but as the swarming tendency is the only method by which the honey — bees have perpetuated their kind, and repaired losses caused by winter, disease, and enemies, it is not likely that for many centuries we will be able to produce a non — swarming race of highly active bees. We can at best weaken slightly this tendency by methods of management, which would fail in their results as soon as they were slightly neglected.

»But how about the arteficial rearing of queens?«

The auther is of the opinion that artificially reared queens, in order to have all the attributes of queens, all their prolificness, must be reared in positively royal circumstances. He mentions the Doolittle method of rearing queens in full colonies, and sees no reason why such queens would not be as healthy and as prolific as the best of naturally — breed queens.

»The advantages of the artificial queen — rearing methods lie principally in the fact that you can rear an unlimited number of good queens fromm your best colonies. — says the author.

At the close of his article the vriter warns against win—and—in« breeding, saying: »Consanguinity is fatal. We should rear our queens and the bulk of our drones from different mothers. From time to time we should exchange breeders with other bee—keepers, equally as careful as ourselves in the selection of the race«.

The article concludes the sentence: »If the above conditions are carefully fulfilled, it seems to me that we will be sure to retain and even increase, the vitality of our honey — bees«

A few of our remarks to this well composed and able article wont be amiss — they are: $\ ^{\prime}$

If prolificness, vitality, industry and honey producing qualities are, above all, most important in a race of bees, then let come this race from the Julian Alps of Carniola, Austria, where the hardiest strain of bees, blessed with the above attributes, is reared. Fy doing this, you get the breeders, queens and the bulk of drones that were reared elsewhere and from different mothers and drones. Consanguinity is fatal.

We can not see the reason why our Carniolan Alpine queens, reared in full colonies in the ozonic, prickling air, amid glaziers and snowcapped peaks, should not be as healthy and as prolific as the ones reared by artificial methods in full colonies — do you?

But — the Carniolians swarm too excessively — a hard case of a foolish natural law, indeed! As the swarming tendency is, according to Mr. C. P. D. and other eminent writers on apicultural things, *the only method by which the honey — bees have perpetuated their kind«, having neither understanding nor inclination to ape or use manners, methods and means leading to race — suicide — they will undoubtedly stick to the oldfashioned way of reproducing themselves' in unlimited numbers by swarming, until in *many centuries we will be able to produce a non — swarming race of highly active bees«.

Until these centuries expire, we — and for that matter many generations after us — will have to figure with the given facts and circumstances. These are: the immense prolificness, industry, vitality, hardiness and gentleness of the Carniolan Alpine bee, and the certainty that by giving her plenty of room, shade and ventilation, by rationally attendig to brood and drone cells, in general, by understanding her characteristics — we can regulate the swarming of this strain of bees like a clock can be regulated by an expert.

Take away from the Carniolan Alpine bee her prolificness — what is nothing else than the indomitable impulse and symptom of natural vigor and strength — and you have killed her industry, her vitality, her hardiness — increased you have by doing this only her gentleness, because she wont stir, even if you squeeze her betwenn your fingers — a dead bee —

10. Scenic Views of the "Home of the Carniolan Hlpine Bee".

The scenic illustrations we present to the bee — keepers and readers of this booklet, offer views of places where the Alpine bee is especially extensively reared and cultivated. The vicinity of the Alps, and the diversity and richness of the flora of the land, have created idealistic conditions for the successful development of apiculture. The flora of Carniola is the most interesting of all Europa, and there iare hundreds of alpine plants that nowhere else are to be found. Most of them bear fragrant blossoms, filled with the finest nectar and healing powers, highly esteemed in the medical world.

The dukedom of Carniola is an Austrian province situated in the South of the Empire and populated by the Slovenes, a branch of the south — slavic race. The Slovenes came in the 6 century in the land, establishing an independent state that existed as such until the middle of the 8 century. After many political adventures Carniola became in the year 1335 a province of Austria.

Regarding natural beauties, scenic charms and strange mysterious natural features, Carniola must be given place among the first, and in many respects it surpasses all other countries of Europe. We mention here only the wonderful grotto of Postojna (Adelsberg) visited yearly by many thousands of tourists.

The cuts of the scenic views were generously lend by the »Tourists Club«, 8 Miklošič street, Ljubljana (Làibach).





An Alpine Hive Carrier in Her Festive Attire.



Triglav, 2865 meters.



Bled. Summer and Health Ressort.



Village Bohinjska Bistrica at the foot of the highest peak of the Carniolan Julian Hips Triglav,



Kranjska gora. Village at the foot of Razor. Summer and Health Ressort.



Village Mojstrana. Summer and Health Ressort.

J. Blasnik's successors, Ljubljana.

The Carniolan gray-banded alpine bee ...

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